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THE IMPACT OF UKRAINE'S EUROPEAN INTEGRATION ON THE DEVELOPMENT OF AGRICULTURE

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Abstract

The purpose of this article is to resolve the following issues: the generalization of the peculiarities of the implementation of foreign trade relations between Ukraine and the EU within the framework of the current order; definition of the state and trends of export-import activity on the main types of products; to evaluate the impact of European integration on the development of the agricultural sector; forecasting foreign trade of Ukraine with agro-food products. On the basis of the calculations, a forecast was made for changes in the import and export of agricultural products. Gravitational modeling of Ukraine's foreign trade in agro-food products (groups 1-24 UCG FEA) has made it possible to establish that the current crisis has considerably aggravated the country's ability to benefit from integration with the EU within the framework of a deep and comprehensive free trade area. It was stated that in the short-run and long-term, the country's positive effects on European integration are possible only if a complex of organizational and economic measures is implemented to ensure the quality and safety of agricultural products.

Keywords: agrarian sector, competitive advantage, euro integration, quality, safety

JEL classification: Q10, F02

1 Introduction

The study of the prospects for the entry of enterprises of the agrarian sector of Ukraine into the market of the European Union is urgent, as the need for further

development and expansion of the presence of domestic producers of agro-food products in world markets is obvious. At the present stage, the economic situation in the agro-industrial complex of Ukraine is complicated by a number of problems, the solution of which can only contribute to deepening its integration into the system of world economic relations. Provided that almost two thirds of Ukraine's GDP (gross domestic product) is exported in recent years, export restructuring is an important criterion for the development of the economy and the country's competitive advantages in the world division of labor. In the conditions of the global agrarian crisis, Ukraine can increase its presence in the global market as a producer of food products, but it requires improving the quality of products based on the introduction of advanced technologies, improving breeding and livestock breeding etc.

Therefore, the study should assess the impact of European integration on the development of the agricultural sector of Ukraine, which is important in the formation of foreign exchange earnings from exports and the formation of GDP.

2 Data and Methods

The argumentation of the theoretical positions and the conclusions that characterize the impact of European integration of Ukraine on the development of the agricultural sector was based on a systematic approach that envisages general scientific (dialectical, intuitive, scientific abstraction, induction and deduction, analysis and synthesis, the laws of logic) and economic methods of research: comparative analysis - comparison of quantitative and qualitative indicators of actual and planned development of domestic agriculture and European countries, assessment of positive and negative features of European integration for Ukraine; statistical-economic and graphic - collection, processing of statistical data, grouping, research of the dynamics of economic parameters of the agrarian sector of Ukraine; synergetic - the gradual growth and development of agrarian relations in the context of coordinated interaction and complementarity of the EU and Ukraine's economic management systems; economic and mathematical - definition of competitive advantages of the agrarian sector of the economy and forecasting the probability of their increase, preservation or loss of certain types of agricultural products in the European market; monographic - study of the peculiarities of Ukraine's integration with the EU in the agrarian sector. Forecasting of foreign economic activity was carried out on the basis of gravitation models of export and import of agro-food products. The information base of the study consisted of legislative and regulatory acts regulating agricultural legal relations in Ukraine, official statistics of the State Statistics Service of Ukraine, the Ministry

of Agrarian Policy of Ukraine, international and European organizations (US-DA-NASS, UN Comtrade, EUROSTAT), the EU Quality Directive and product safety, rural development, monographic works and scientific publications of domestic and foreign authors; scientific and analytical information of the Internet network, the results of the author's personal analytical generalizations.

3 Results and Discussion

It is known that the most common forms of integration in the modern world are free trade zones and customs unions. The integration option has accompanied Ukraine throughout the history of its independent existence, which was carried out between two integration groups – the EU and Russia, which are significant in size and important trade partners [1].

The main problems in the agricultural sector are low labor productivity, high level of depreciation of fixed assets, use of outdated technologies by small and medium-sized agricultural enterprises, excessive employment, inappropriate organization of production, insufficient level of infrastructure development in rural areas, etc. Ukraine's accession to the WTO contributed to the formation of a new national customs tariff. The average tariff rate for all product groups in 2014 was 5.8% (10.9% for agricultural products and 5% for industrial products) [2]. The statistics on foreign trade in the industry confirm that oil production has become the only industry that has benefited from accession to the WTO. This became possible due to the fact that before the accession of Ukraine to the organization managed to carry out technical modernization in the industry and increase its competitiveness. Today the export positions of the industry on cereals, fats and oils of various origins have coincided.

The main factors hampering the growth of export of industry products are insufficient competitiveness of the industry, lack of effective agrarian policy of the state and the national strategy for the development of this industry. At the same time, low purchasing power of the Ukrainian population, low level of profitability of commodity producers and devaluation of the national currency to the euro led not economic access to imports of goods, technologies and services. Under such conditions, national producers of agricultural products failed to form and strengthen the competitive advantages of Ukrainian classification of goods for Foreign Economic Activity 01-24, as well as to fully utilize the effects of import integration [3].

Consequently, from the author's point of view, the following characteristics of the agreement concluded between Ukraine and the EU can be distinguished: economic substantiation; evolutionary character; complexity; detail and structuring.

It is established that integration between Ukraine and the EU is formed on the basis of the asymmetric deep and comprehensive free trade zone model.

It is known that Ukraine is a leader in the export of a range of agricultural crops and foodstuffs. Among them, in particular, include vegetable fats, vegetable products and certain livestock products. At the same time, it has not yet been among the leading exporting countries, which determine world prices on agricultural markets. Today, Ukraine is confidently leading the external supply of oil, taking a prominent position in exporting barley and wheat.

The above calculations in table 1 show that in recent years, the share of Ukraine's agricultural exports has grown significantly, which is mainly due to favorable conditions of the external market. At the same time, the share of imports remains virtually unchanged (fluctuating within 10%) due to a decrease in purchasing power of the population and the devaluation of the national currency (hryvnia).

Assessing the qualitative growth of volumes and the share of exports, one can conclude that Ukraine is not fully utilizing the opportunities in foreign economic activity due to the fact that raw materials are mostly exorted. Consequently, in today's conditions, for Ukraine, the strategic priority of the development of agriculture and food industry should be the formation of stable agribusiness chains with high added value.

Table 1 Dynamics of volumes and share of export-import of Ukraine for the group 0-24 of UCG FEA

Years	Export, million dollars	The share of exports in the overall structure of Export UCG FEA, %	Imports, million dollars	Import share in the overall structure of Import UCG, %	Balance
2005	4305	12,6	2684	8,7	1621
2006	4713	12,7	3166	6,9	1547
2007	6248	12,8	4111	6,7	2137
2008	10825	16,2	6457	7,5	4368
2009	9515	24,0	4936	10,9	4579
2010	9936	18,7	5762	9,4	4174
2011	12804	18,7	6347	7,8	6457
2012	17881	26,1	7520	8,9	10361
2013	17024	26,8	8184	10,7	8840
2014	16669	30,9	6059	11,2	10610

Years	Export, million dollars	The share of exports in the overall structure of Export UCG FEA, %	Imports, million dollars	Import share in the overall structure of Import UCG, %	Balance
2015	14563	38,3	3484	9,4	11079
2016	15284	42,1	3890	10,1	11394

Source: Compiled and calculated according to the data of the State Statistics Service of Ukraine.

The generalization of the foregoing makes it possible to state the manifestation of the positive and negative consequences of European integration for the domestic agrarian sector. The following should be considered as positive: unification of phyto-sanitary standards will lead to strengthening of the positions on the world market; investing in manufacturing and processing industry can double production volumes and create additional jobs; increased volumes of organic production; improving the quality and safety of products; the growth of exports of confectionery, meat and dairy, oilseed fat, fruit and vegetable and brewing products; strengthening of the processes of cooperation of households; the establishment of EU zero import duties for goods covered by tariff quotas (about 85 tariff lines).

The negative factors include the following: a small proportion of enterprises certified according to international standards; the low quality of food products will not allow them to be exported to the EU; the underdevelopment of the market infrastructure will slow down exports to the EU; low capitalization of agricultural enterprises will prevent investments; the loss of a part of the domestic market when imports of food products increase; the problem of changing names due to the implementation of obligations to comply with geographical indications [4].

European integration for Ukrainian consumers will contribute to a slight decrease in prices for imported food products in the initial period of its import, the possibility to buy food products of higher quality, increase in the range of food products. As for the negative consequences, they will be manifested in the following: a possible tendency to increase domestic prices for sunflower oil as a result of higher prices for raw materials; familiarity with new products for some consumers will cause difficulties in terms of knowledge of quality content and equivalence in price.

It was established that the export of agrarian sector products in 2016 amounted to 15.2 billion US dollars, which is 4 billion more than in 2015, the share of agricultural products in the total export of the country reached 42%. The largest increase in exports was observed in the group of fats and oils of animal or

vegetable origin - by 20% compared to the previous period. The absolute figure for this category was almost 4 billion US dollars. Exports of vegetable products in excess of USD 8 billion were the highest in the monetary equivalents, including exports of grain crops to US \$ 6 billion. In addition, in 2016, exported food products at 2.45 billion US dollars and live animals with products of animal origin at 0.78 billion US dollars.

In 2016 Ukraine imported products of the group 1-24 UCG FEA at 3.89 billion dollars. US, which is more than \$ 0.59 billion in 2015 USA. In particular, imports of: live animals and animal products by 0.62 billion US dollars; products of vegetable origin to 1.3 billion dollars. USA; fats and oils of animal or vegetable origin at USD 0.25 billion; ready-made food products at 1.7 billion US dollars. Consequently, in 2016, a positive foreign trade balance was formed for the goods of group 1-24 of the Ukrainian Foreign Economic Association in the amount of \$ 11.4 billion.

At the same time, in 2016, European countries ranked second among the importing regions of agri-food products with a share of 27.5%, giving way only to Asian countries. In the total same trade in agricultural products, the EU share of last year amounted to 31.5%. The top 5 importing countries of our products from the EU include Spain, Poland, the Netherlands, Italy and Germany.

The main products of Ukrainian exports to the countries of Europe in 2016 were (on cost indicators): cereals, oil, oilseeds, fruits and nuts. There is an increase in demand for honey, meat, confectionery and juices.

In 2016, against 2015, the growth of exports of domestic agricultural products was due to an increase in supplies of commodity groups such as sunflower oil - by 505 million dollars. US, sunflower seeds - by 36.1 million, sugar - by 16.5 million US dollars. It has been established that a significant increase in exports of niche fresh or processed products: canned tomatoes - by 14.3 million dollars. The USA, or 2 times, vegetables fresh and chilled - 4 times, cucumbers - in 2,7 times, fresh fruits - in 2,5 times, margarine products - 9 times.

As it is now known, only 266 Ukrainian enterprises have the right to export products to the EC. Of these, 86 enterprises - food producers, 180 enterprises - producers of non-food products.

Imports of European products to Ukraine increased in 2016 and steel: sauces, coffee, tea and others - 233.6 million dollars. US, cocoa beans and chocolate - 113.7 million, as well as cereals - 105.6 million US dollars, etc. The balance of bilateral trade between Ukraine and the EU in the group of 1-24 UCG FEA foreign trade in 2016 amounted to over 2.3 billion US dollars. The foreign trade turnover of agricultural products between Ukraine and the EU countries in 2016 amounted to 6182.9 million US dollars.

We have carried out a comprehensive comparative analysis of the main groups of agricultural products in the foreign market by the model "food independence competitiveness." As an indicator of food independence we will adopt the Food Independence Index (F):

$$F = \ln \frac{p * 100\% \div (m + p * s - x)}{n} \quad (1)$$

where, x – the volumes of export of a particular product from the country; m – volumes of import of goods into the country; p – volumes of domestic goods production in the country; s – change in the volume of goods in the country; n – the minimum share of goods of domestic production.

We consider that as an indicator of competitiveness it is expedient to take the modified Balass index, that is, one of the options of the index of comparative advantages (RCA):

$$RCA = \ln \frac{(x_{ij} : m_{ij})}{\sum x_{ij} : \sum m_{ij}} * 100 \quad (2)$$

where, x_{ij} - volumes of export of goods j from country i ; m_{ij} - volumes of import of goods j to country i ; $\sum x_{ij}$ - total volume of exports from country i ; $\sum m_{ij}$ - total volume of imports into the country i .

Using the natural logarithm in the calculation of both indices extends the possibilities of cluster analysis, since it will allow the distribution of the values of food independence indices (F) and the identified comparative advantages (RCAs) in the field of positive and negative values. Thus, this approach facilitates the comparison of the values of the indexes F and RCA, which will allow to clearly divide food products into clusters.

The results of two-criterion analysis of the state of the food market will be applied to the plane with the abscissa, corresponding to the food independence index (F), and the axis of the ordinate corresponding to the indicator of the discovered (open) comparative advantages (RCA) [5].

For the analysis on the coordinate plane, vertical and horizontal lines corresponding to the threshold values of the criterion are applied. Due to the use in the formulas of both indices of a natural logarithm, threshold values become apparent.

Determining the maximum (minimum) permissible level for each indicator is an important methodological issue. As for the index of food independence, if the share of agricultural raw materials and food of domestic origin in the total

volume of commodity resources of the domestic market exceeds the established normative index, then $F > 0$. In case of excessive import dependence and decrease of domestic production to the level of excessive import dependence and decrease of domestic production to the level established by the government of the country $F < 0$.

The study found that the minimum acceptable level of food independence could be interpreted differently for different food products, depending on the level at which level the market food supply can or should be achieved on the basis of its own production. Obviously, food self-sufficiency is recognized within the industry by the level of food independence within the limits of 70-80% of the commodity resources of the internal food market [6-8].

The economic content of the index of discovered (open) comparative advantages of the industry (RCA) is based on the ability of the industry to fill the domestic and foreign markets of its own products more successfully than foreign competitors do. On the coordinate plane of the model of two-criterial analysis of the food market, four quadrants can be distinguished: 1st quadrant: groups of agricultural products that are competitive on the domestic and foreign markets; food supply to national consumers exceeds the level of food independence; 2nd quadrant: food products that are competitive and in demand on the domestic and foreign markets; food self-sufficiency of national consumers below the level of food independence; 3rd quadrant: groups of noncompetitive food products in the foreign market are replaced by imports on the domestic market; food self-sufficiency of national consumers below the level of food independence; Quadrant 4: Noncompetitive food products in the foreign market; food self-sufficiency of national consumers exceeds the level of food independence.

Each of the quadrants of the model of two-criterion analysis of the food market must meet the appropriate regulatory measures. So, if the group of food products as a result of the analysis appeared in the 1st quadrant, this means that the country's agro-food sector has completely fulfilled its task – the domestic market is saturated, the sector also carries out the supply of goods to the external market. An effective policy of agri-food policy should be economic diplomacy to support agricultural exports and measures to stimulate exports on the basis of intensifying the activity of the foreign-economic activity infrastructure.

The 2nd quadrant of the model, the quadrant of food threats, includes food products that are competitive and in demand on the external and internal markets, but significant external demand, for example, as a result of crop failure in major producer countries, can stimulate surplus exports and create a deficit on the domestic market. Such a provision could pose a threat to national food security and would result in significant financial costs for imports, a severe

crisis in related and processing industries. Government can recommend measures to reduce export activity.

The domestic market of agri-food products that have fallen into the 3rd quadrant model need protection, as they can not withstand competition not only on the external but also on the domestic market. The volumes of their production are insufficient and superseded by imported goods. In this regard, food insecurity of the country is under threat, the main measures should be instruments of protection of the domestic agro-food market.

The 4th quadrant includes a less problematic sector of food products that are not competitive on the external market, but the task of food independence has been resolved. In this case, the government needs not only to monitor the implementation of food independence criteria, but also to adjust the priorities of the export specialization of the agro-food sector. If the product is not one of the priorities of export policy, its presence in the 4th quadrant already has a position close to the optimal one. In the long run, it is advisable to optimize the level of security of these markets by eliminating excessive restrictions on the availability of the domestic market and the cost of internal subsidies, replacing subsidies within the "yellow box" with green basket tools, etc.

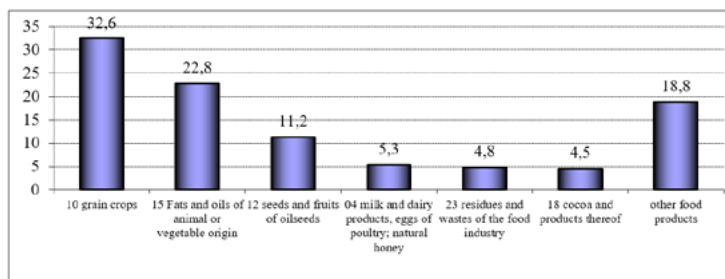
The use of the model of the two-criterion analysis of the agro-food market "food independence - competitiveness" involves the development of priorities for the protection of the domestic agro-food market through the following tasks: the breakdown of food products into groups of objects, similar in terms of food independence and competitiveness criteria, makes it possible to simplify the further development of measures for the protection of the internal market and other measures to regulate the agro-food sector; the international comparison of the state of food markets on the basis of comparable international statistics and WTO data on the level of protection of the agro-food market, will allow systematizing the study of foreign experience in this field and increase the efficiency of its implementation; The implementation of two-tiered analysis in the dynamics, that is, operative tracking of trends (vectors) of market development within the framework of this model will allow to assess the effectiveness of using measures to protect the domestic market and timely adjust them.

Most domestic researchers are united in the opinion that grain and oil subcomplexes are the most competitive sectors of the agrarian economy. At the same time, beet sugar, fruit and vegetable, meat, milk and other subcomplexes have weaker competitiveness, which causes a high proportion of imported agricultural products in the total volume of commodity resources of the domestic market.

Considering the commodity structure of Ukraine's food exports on average, in the period of 2009-2015, in the structure of export of products of the group 1-24

UKT FEA (Figure 1), the largest share for the period under study was made up by 32.6% of grain crops. In the second place are fats and oils of animal or vegetable origin, which accounted for 22.8%, followed by seeds and fruits of oilseeds 11.2%, milk and dairy products, poultry eggs, natural honey 5.3%, balances food industry waste 4.8%, other food products 18.8%.

Figure 1 Commodity structure of Ukraine's food export so naverage for 2009-2015



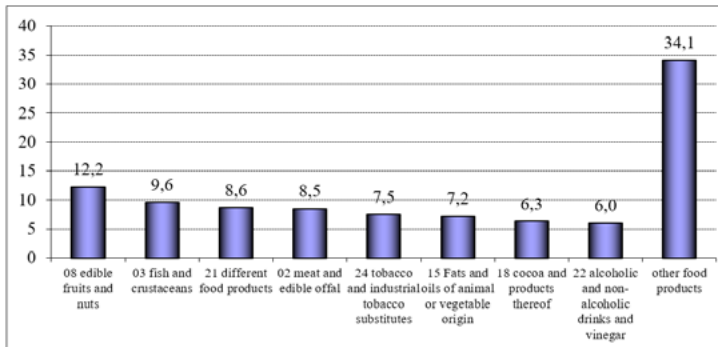
Source: Compiled and calculated according to the data of the State Statistics Service of Ukraine.

In the commodity structure of Ukraine's food imports, on average, for the period of 2009-2015, the largest share was (Figure 2) edible fruits and nuts (12.2%), fish and crustaceans (9.6%), various food products (8.6%), meat and edible meat products (8.5%), tobacco and industrial tobacco substitutes (7.5%), fats and oils of animal or vegetable origin (7.2%), other food products (34.1%). It should be noted that domestic imports have a more even structure, without clearly expressing the dominance of some of them.

It is obvious that the development of foreign trade in agricultural raw materials and food should be subordinated to the task of efficient use of the resource potential of the domestic agrarian economy. In accordance with the theory of comparative advantages of Heckscher-Ohlin, regulation may distort the functioning of a market mechanism, reduce the effects of the international division of labor, as it will allow for the full benefit of comparative advantage.

We are studying on the basis of quantitative analysis of the comparative advantages of the domestic agro-food sector. We have shown above that one of the tools for assessing comparative advantages is the modified index of comparative advantages (RCAs).

Figure 2 Commodity structure of Ukraine's food imports on average for 2009-2015



Source: Compiled and calculated according to the data of the State Statistics Service of Ukraine.

Table 2 presents the results of the evaluation of the index of comparative advantages identified for food products in 2009-2015.

Table 2 Results of evaluation of the indexes of the revealed comparative advantages to the goods Agro-food group of Ukraine, 2009-2015

The code and the name of the goods according to the Ukrainian Foreign Ministry	2009	2010	2011	2012	2013	2014	2015	On average, 2009-2015
I. Live animals; products of animal origin	-0,129	-1,293	-1,411	-1,021	-0,802	-1,447	-1,289	-1,056
01 live animals	-2,733	-3,072	-2,706	-3,466	-2,754	-3,395	-2,897	-3,003
02 meat and edible offal	-0,541	-2,939	-2,628	-2,170	-1,091	-1,693	-1,320	-1,769
03 fish and crustaceans	-4,457	-5,640	-3,586	-3,843	-3,949	-4,466	-4,458	-4,343
04 milk and dairy products, eggs of poultry; natural honey	1,734	1,068	0,565	1,022	0,842	0,271	0,236	0,820

The code and the name of the goods according to the Ukrainian Foreign Ministry	2009	2010	2011	2012	2013	2014	2015	On average, 2009-2015
05 other products of animal origin	-0,265	-1,185	-1,495	-0,994	-1,382	-1,745	-1,680	-1,249
II. Products of vegetable origin	0,599	0,822	0,729	0,388	0,412	0,467	0,469	0,555
06 live trees and other plants	-3,482	-4,368	-4,315	-4,269	-4,684	-5,434	-4,943	-4,499
07 vegetables	0,839	-0,623	0,061	-0,631	-0,704	-0,923	-1,232	-0,459
08 edible fruits and nuts	-0,828	-1,736	-1,932	-1,801	-1,848	-2,599	-2,927	-1,953
09 coffee, tea	-3,584	-3,921	-3,931	-3,711	-3,785	-4,083	-4,075	-3,870
10 grain crops	2,080	2,713	2,930	2,285	2,099	2,469	2,302	2,411
11 products of the flour-grinding industry	-0,060	0,789	0,834	0,536	0,106	0,447	0,929	0,512
12 seeds and fruits of oilseeds	1,517	1,291	1,381	1,258	0,913	0,720	0,924	1,143
13 shellac is natural	-4,382	-5,201	-4,615	-3,993	-4,379	-4,552	-4,554	-4,525
14 vegetable materials for making	1,130	0,590	1,089	0,096	-0,262	-1,497	2,606	0,536
III. 15 Fats and oils of animal or vegetable origin	1,390	0,639	0,912	1,212	1,279	1,472	1,430	1,191
IV. Ready food products	-0,114	-0,579	-0,630	-0,519	-0,731	-0,702	-0,633	-0,558
16 products made from meat, fish	-1,359	-1,959	-1,385	-1,267	-1,612	-1,639	-1,681	-1,557
17 sugar and sugar confectionery	1,463	0,377	-0,021	-0,659	-0,655	0,542	0,345	0,199
18 cocoa and products thereof	0,173	-0,179	-0,262	-0,172	-0,384	-0,479	-0,543	-0,264
19 ready-made grain products	0,321	-0,047	0,101	0,159	0,020	-0,074	-0,083	0,057

The code and the name of the goods according to the Ukrainian Foreign Ministry	2009	2010	2011	2012	2013	2014	2015	On average, 2009-2015
20 products of vegetable processing	-0,094	-0,997	-0,937	-0,604	-0,896	-0,674	-0,427	-0,661
21 different food products	-1,837	-2,246	-2,219	-1,879	-1,995	-1,977	-1,694	-1,978
22 alcoholic and non-alcoholic drinks and vinegar	0,520	-0,005	0,230	-0,050	-0,796	-1,113	-1,154	-0,338
23 residues and wastes of the food industry	0,548	0,173	-0,212	0,287	0,229	0,352	0,439	0,259
24 tobacco and industrial tobacco substitutes	-1,033	-1,237	-1,412	-1,335	-1,424	-1,511	-1,172	-1,304

Source: Compiled and calculated according to the data of the State Statistics Service of Ukraine.

The assessment of the international competitiveness of domestic agricultural raw materials and food in accordance with the commodity nomenclature of UCG FEA (24 commodity groups) made it possible to find that Ukraine is only competitive in the group "10 Cereals", which includes wheat, barley, rye, oats, corn, rice, grain sorghum, buckwheat and other cereals; fats and oils of animal or vegetable origin; seeds and fruits of oilseeds; milk and dairy products, poultry eggs; products of the flour-grinding industry; residues and waste of the food industry.

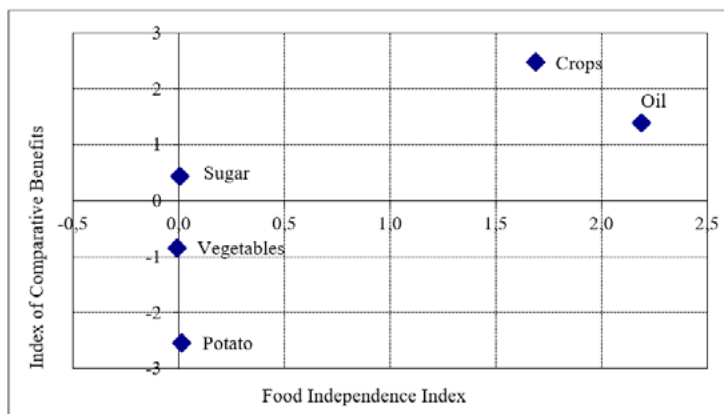
The Index of Competitive Advantages (RCAs) for the Grain Crop Group in 2009 reached 2,08, and in 2015 - 2,302. On average, during 2009-2015, the index of comparative advantages found for this group amounted to 2,411. The active development of new grain marketing markets is also supported by the fact that the State Food and Grain Corporation of Ukraine (GCU) has been included in the Register of Cereal Suppliers of the World Food Program of the United Nations (UN). This not only allows access to new markets, but also confirms the high level of confidence in the quality of Ukrainian agrarian products in the international arena. In the future, Ukraine will only strengthen its position in world markets. According to the United Nations Food Program (UNFP) forecasts, in Ukraine,

the percentage of agricultural production growth and, accordingly, exports of agricultural products by 2020 will increase by 60%.

The calculations show that the domestic agro-food complex is uncompetitive for the vast majority of food commodity groups. Thus, on average for 2009-2016, the index of comparative advantages found for the group "Meat and edible offal" was -1,769, for the group "Live trees and other plants" -4,499, for the group "Live animals" -3,003, for the group "Edible fruits and nuts" -1,953, for the group "Vegetables" -0,459. Consequently, our country is characterized by a very low level of competitiveness in relation to agricultural and food products with high added value - meat, meat products, live animals, fruits and vegetables. Obviously, Ukraine has become an exporter of raw materials in the agrarian sector.

The model, two-criterion analysis of the food market "food independence-competitiveness" allows us to conduct an assessment in the context of individual product groups. In figure 3 presents a comparative analysis of commodity groups of crop production in the context of indicators of competitiveness and food independence.

Figure 3 **Indices of comparative advantages of commodity groups of crop production in 2015**



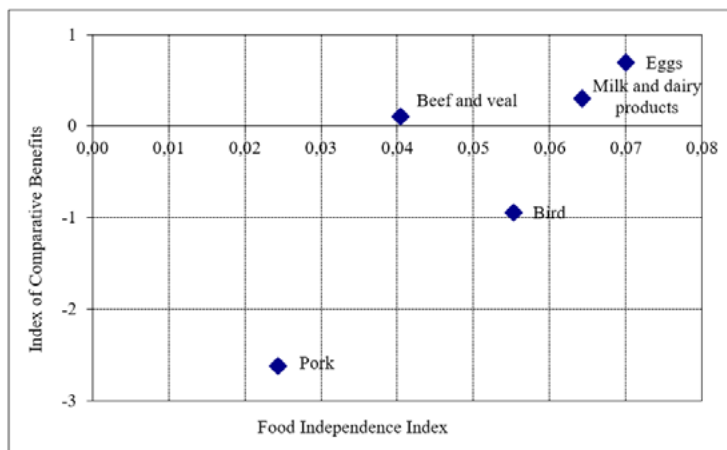
Source: Compiled and calculated according to the data of the State Statistics Service of Ukraine.

The first group of goods (first quadrant) includes grains and oils, because they are competitive, and the food supply of national consumers of this product exceeds the level of food independence. On average, in 2009-2015, the index

of comparative preferences for grain was 2,096, and for oil - 1,227, that is, both products have a high international competitiveness. The value of the food independence index for cereals was 1,686, and for oil - 2,118. It should be noted that the indicators of food independence for these crops are quite significant, which can not lead to the displacement of these types of products into the second quadrant. A number of types of domestic crop production were in the third quadrant. Vegetables and potatoes in 2009-2015 were insufficiently competitive even in the domestic market, which led to the loss of food independence, or the critical state of these types of products. The index of food independence for vegetables in 2015 was: - 0,009, for sugar - 0,006, for potatoes - 0,016. The index of comparative advantages for fruits was 4.69. An important fact is that in the group of crop products, it has an average competitiveness and sugar independence of food, but the excess of volumes of imports with insignificant exports displaced this group into the second quadrant.

In figure 4 presents a comparative analysis of commodity groups of livestock products in the context of indicators of competitiveness and food independence.

Figure 4 **Indices of comparative advantages of commodity groups of livestock products in 2015**



Source: Compiled and calculated according to the data of the State Statistics Service of Ukraine.

The presented data show that the first square forms eggs (the index of comparative advantages is 0.669, and food independence - 0,070), milk and dairy

products (indexes 0.064, 0.305), beef and veal – 0.040; 0.111). At the same time, poultry and pork were uncompetitive in the domestic market with critical food insecurity. Thus, the index of food independence for poultry meat amounted to – 0,055, for pork – 0,024, and in general for meat – 0,041. The index of comparative advantages for poultry meat was -0.945, for pork -2.621, and in general for meat -1.693. It is obvious that the tools of protection and support of agriculture in 2009-2015 did not allow domestic producers in the current economic conditions to achieve international competitiveness, as well as to achieve food security above the threshold of food independent.

State support to the agrarian sector in the format of development of the marketing aspect of the green basket of the WTO, as evidenced by the practice of implementing the relevant programs of the EU and the US, is a priority direction for strengthening of competitive advantages in foreign markets [9].

At the same time, the European Commission adopted a program to support the promotion of agricultural products in foreign markets and provide information to potential consumers (The Program to Provide information on and to promote agricultural products in the European Union). The total budget of the program is 51 million euros.

In the US, a system of federal and regional marketing support programs has become widely developed, the US Department of Agriculture is structurally supported by two main lines of marketing support to the agrarian sector in domestic and international markets. The first direction is provided by the Agricultural Marketing Service, which provides marketing services to farmers, processors, distributors and consumers of agricultural products. Together with other enterprises in the industry, food quality standards are developed and maintained. The Marketing Service also manages a US Department of Agriculture product program that provides consumers with nutrition support.

The adaptation of agro-food markets of Ukraine to the conditions of globalization and the WTO from the strategic point of view should include the following development processes: advancement of advanced methods of organization of agricultural production, strengthening of scientific and technical base and comprehensive increase of competitiveness of agriculture; improvement of agricultural export policy and its diversification; developing their own strategic framework for the import of agricultural products and food; the creation of a global chain of supply of agricultural products and food and the risk minimization system that manifests itself in the world market, effective protection of the agro-food sector, the active use of the mechanisms for its protection provided by the WTO rules; the creative implementation of international experience in the development of agro-food markets, especially those countries that have recently joined the WTO, the

creation of appropriate institutional structures, sectoral organizations and associations, and ensuring their development; support and encouragement of domestic agribusiness enterprises to enter foreign markets in order to strengthen competitive positions in international markets for agricultural products and foodstuffs.

The results of the study showed that the potential of the domestic agrarian sector can satisfy the domestic needs of the population in food, within its purchasing power and form export opportunities for certain species. From the point of view of import dependence, the positions of "fish and fish products", "fruits, berries and grapes", "vegetable oil of all kinds" remain the most vulnerable positions, respectively, the share of imports by these groups in total consumption is 71.1%; 48.1% and 39.1% at the 30% threshold of this indicator.

4 Conclusions

Consequently, the use of positive effects from the integration of Ukraine into the EU by Ukrainian exporters is possible only if the quality and safety of domestic agricultural products is improved and the domestic legislation is harmonized with European requirements. Today, the "perfect" legislative system of quality and food safety regulation in Poland, which combines its own requirements and EU requirements, is considered today. In Ukraine, the transition to the legislative level of the EU can last up to 10 years. However, such a transition should be gradual and planned at each level. The improvement of the legislative framework should be based on domestic achievements, taking into account the experience of the quality and safety control system in EU countries. Today, according to a number of quality indicators in Ukraine, more stringent requirements than in the EU countries, which will primarily protect the domestic market from the saturation of low-quality food products.

Estimating the cost of adapting Ukraine to the EU technical regulations through direct payments by sector is an extremely labor-intensive task that requires the collective efforts of producer associations in coordinating sectoral government bodies. In order to estimate the cost of implementing the EU sanitary and phytosanitary standards in agriculture in Ukraine, it is most appropriate to use the experience of Poland in view of the structure of its agriculture, which is dominated by small producers. Since the export-oriented branches of agriculture in Ukraine are already working according to world standards, rebuilding requires, first and foremost, industries working on the domestic market, in which the production structure is also dominated by small producers. It should be noted that in many positions (mainly rapeseed, sunflower seeds, wheat, sorghum, etc.) raw